16A, 20V - 100V Schottky Barrier Rectifier

FEATURES

- AEC-Q101 qualified available
- Low power loss, high efficiency
- Guard ring for overvoltage protection
- High surge current capability
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

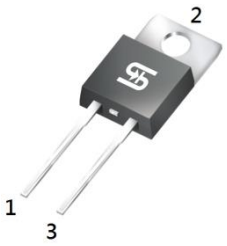
- Switching mode power supply (SMPS)
- Adapters
- DC to DC converters

MECHANICAL DATA

- Case: TO-220AC
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Mounting torque: 0.56 N·m maximum
- Meet JESD 201 class 2 whisker test
- Polarity: As marked
- Weight: 1.86g (approximately)

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
I_F	16	A
V_{RRM}	20 - 100	V
I_{FSM}	200	A
$T_{J\,MAX}$	125, 150	°C
Package	TO-220AC	
Configuration	Single die	

Pb-Free RoHS COMPLIANT HALOGEN FREE



TO-220AC

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)									
PARAMETER	**SYMBOL**	**SRA 1620**	**SRA 1630**	**SRA 1640**	**SRA 1650**	**SRA 1660**	**SRA 1690**	**SRA 16100**	**UNIT**
Marking code on the device		SRA 1620	SRA 1630	SRA 1640	SRA 1650	SRA 1660	SRA 1690	SRA 16100	
Repetitive peak reverse voltage	V_{RRM}	20	30	40	50	60	90	100	V
Reverse voltage, total rms value	$V_{R(RMS)}$	14	21	28	35	42	63	70	V
Forward current	I_F	16							A
Surge peak forward current 8.3ms single half sine wave superimposed on rated load	I_{FSM}	200							A
Junction temperature	T_J	-55 to +125			-55 to +150				°C
Storage temperature	T_{STG}	-55 to +150							°C

THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-case resistance	$R_{\Theta JC}$	5	°C/W

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)

PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage[1]	SRA1620 SRA1630 SRA1640	I_F = 16A, T_J = 25°C	V_F	-	0.55	V
	SRA1650 SRA1660			-	0.70	V
	SRA1690 SRA16100			-	0.92	V
Reverse current @ rated V_R[2]	SRA1620 SRA1630 SRA1640 SRA1650 SRA1660	T_J = 25°C	I_R	-	500	μA
	SRA1690 SRA16100			-	100	μA
	SRA1620 SRA1630 SRA1640	T_J = 100°C		-	15	mA
	SRA1650 SRA1660			-	10	mA
	SRA1690 SRA16100			-	-	mA
	SRA1620 SRA1630 SRA1640 SRA1650 SRA1660	T_J = 125°C		-	-	mA
	SRA1690 SRA16100			-	5	mA

Notes:

1. Pulse test with PW = 0.3ms
2. Pulse test with PW = 30ms

ORDERING INFORMATION

ORDERING CODE[1][2]	PACKAGE	PACKING
SRA16x	TO-220AC	50 / Tube
SRA16xH	TO-220AC	50 / Tube

Notes:

1. “x” defines voltage from 20V(SRA1620) to 100V(SRA16100)
2. “H” means AEC-Q101 qualified

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

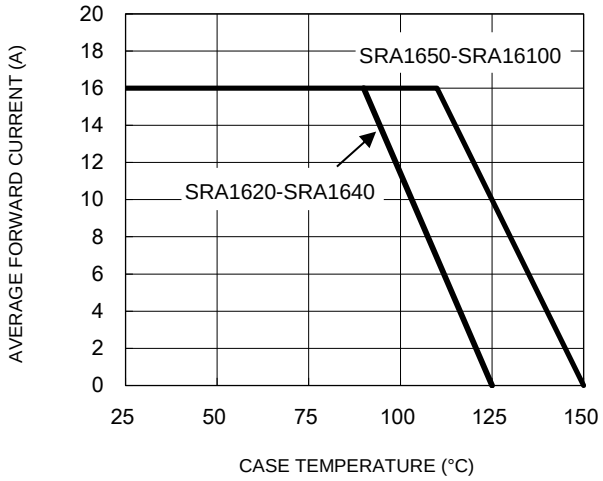


Fig.2 Typical Junction Capacitance

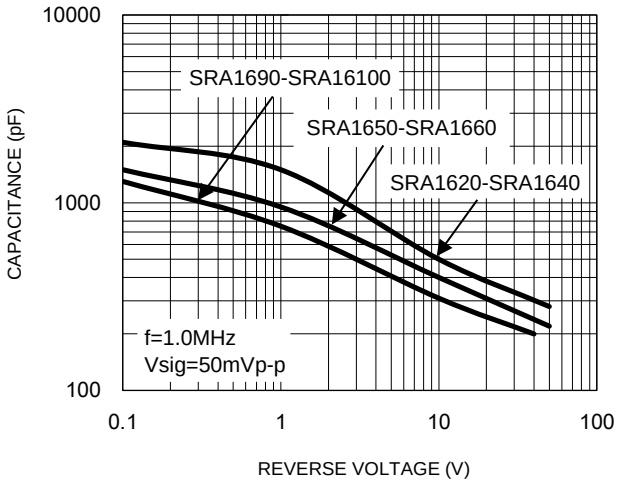


Fig.3 Typical Reverse Characteristics

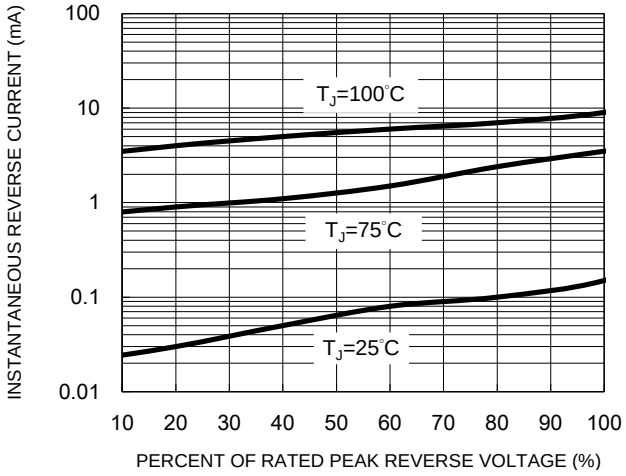


Fig.4 Typical Forward Characteristics

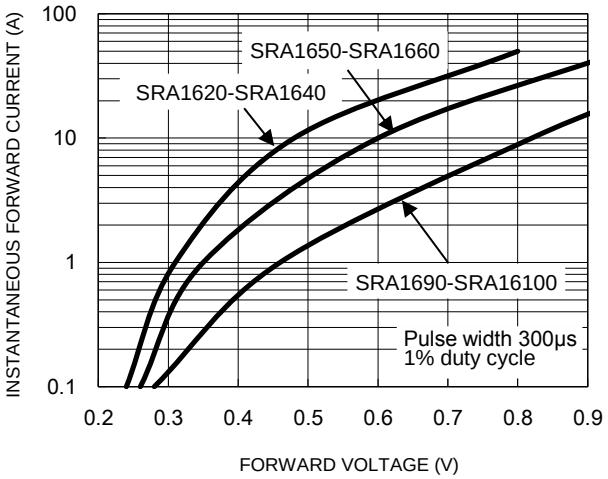
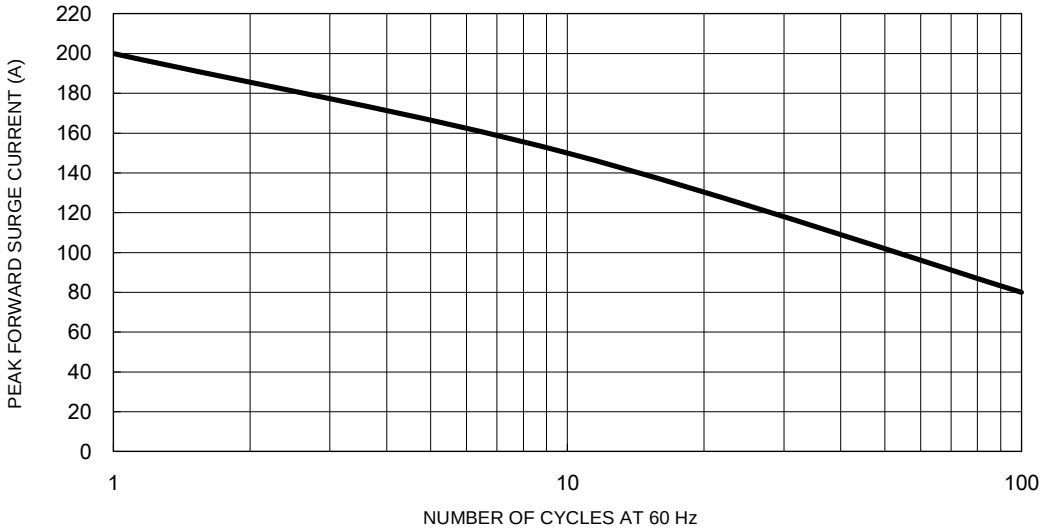


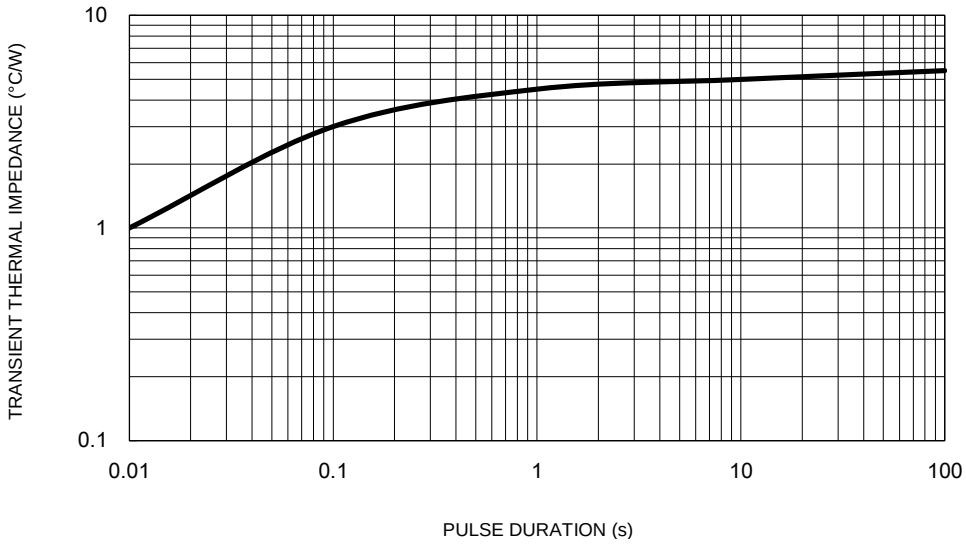
Fig.5 Maximum Non-Repetitive Forward Surge Current



CHARACTERISTICS CURVES

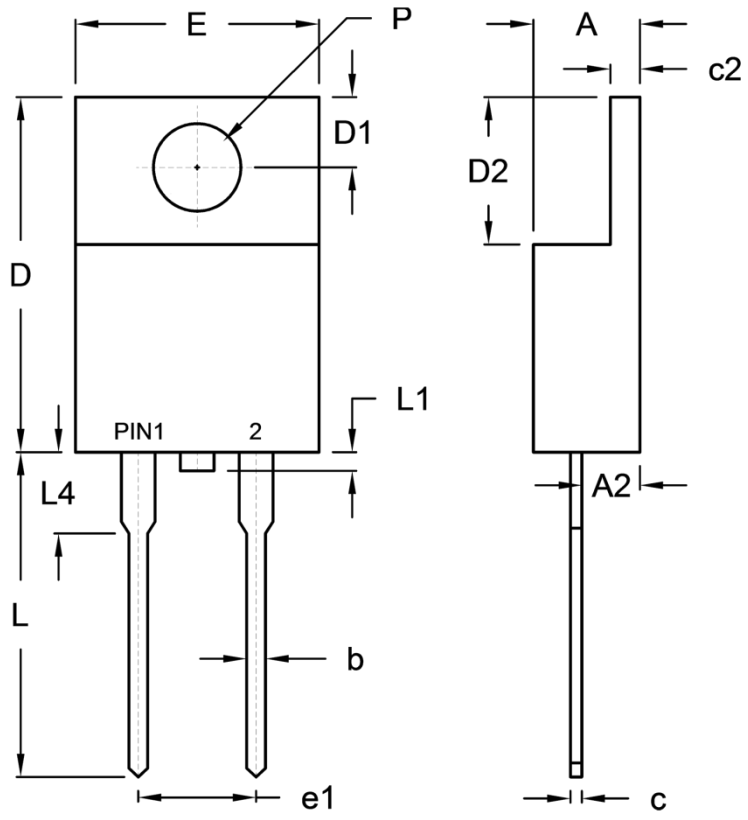
(T_A = 25°C unless otherwise noted)

Fig.6 Typical Transient Thermal Impedance



PACKAGE OUTLINE DIMENSIONS

TO-220AC



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	4.42	4.76	0.174	0.187
A2	2.20	2.80	0.087	0.110
b	0.68	0.94	0.027	0.037
c	0.35	0.64	0.014	0.025
c2	1.14	1.40	0.045	0.055
D	14.60	16.00	0.575	0.630
D1	2.62	3.44	0.103	0.135
D2	5.84	6.86	0.230	0.270
E	-	10.50	-	0.413
e1	4.95	5.20	0.195	0.205
L	13.19	14.79	0.519	0.582
L1	0.00	1.60	0.000	0.063
L4	2.80	4.20	0.110	0.165
P	3.54	4.00	0.139	0.157

MARKING DIAGRAM

P/N = Marking Code
G = Green Compound
YWW = Date Code
F = Factory Code

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